Volunteer Firemen

NOVEMBER 1943

NATIONAL FIRE PROTECTION ASSOCIATION
INTERNATIONAL
60 Batterymarch Street Boston 10, Massachusetts

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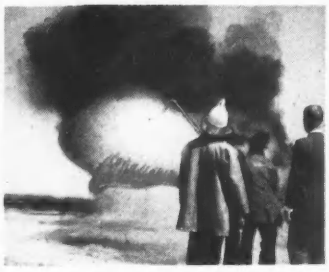
YOUR PRESENT FIRE EQUIPMENT IS ADEQUATE FOR ALL-PURPOSE FOGNOZLS



1. Pearl oil. Burning time 1 minute.

2. Advancing under protection of water fog screen, water pressure 100 lbs.p.s.i.

3. Application of fog to 15 foot tank. Note the 1½" line.

4. Diluting the burning vapors.

5. 6 seconds elapses between this picture and No. 3.

6. How inside of tank looks to observer at time of final extinguishment.

In the following illustrations, the fire shown is of pearl oil in a 15 foot diameter tank. Extinguishment is accomplished with a FOGNOZL at a water pressure of 100 lbs.—IN 6 SECONDS.

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in order to obtain the advantages of this NEW METHOD OF EXTINGUISHING THE FIRES OF THE FUTURE. FOGNOZLS produce a high velocity water fog for projecting uniform broken water at extreme distances. The same nozzle is so arranged that it can be made to produce a low velocity fog for the extinguishment of materials such as gasoline or dust fires with a minimum disturbance of the burning material.

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  TO FIREMEN AND FIRE VICTIMS
- RAPID EXTINGUISHMENT
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- REDUCED WATER DAMAGE
  A RATIO OF 1 TO 30
- ECONOMY & AVAILABLE SUPPLY
  PLAIN WATER

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WOOSTER, OHIO

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AGAINST FIRE · BURGLARY · HOLDUP

A NATION-WIDE ORGANIZATION

Volunteer Firemen

AUXILIARY firemen of Washington, D. C., set a national record during Fire Prevention Week when they placed in operation simultaneously, one hundred pumps having a total discharge of 50,000 gallons per minute. The 400 auxiliary firemen took part in the huge display (shown on the front cover picture).

The previous national record had been set with the operation of 64 pumps in Detroit. To break this record the Washington auxiliaries mobilized 31 front-mounted pumps carried on trucks donated by milk companies, department stores and bakeries; and 69 OCD trailer pumps. To get the full capacity three lines were attached to each of the pumps. The demonstration was marked by two casualties when hose lines getting out of control threw one auxiliary fireman into the water, and another against a pumper fracturing several ribs.

At only one fire in history has the amount of water used equaled or even approached the figure obtained in this demonstration. This was the Chicago Stockyards fire of May 19, 1934, at which the total discharge may have reached the rate of 50,000 g.p.m. The second greatest fire flow was the huge pulpwood pile fire at Port Alfred, Quebec, on April 29, 1932, when 33,000 gallons per minute was discharged by huge pumps mounted on a dredge.

The total pumping capacity of the famous high-pressure fire main system in lower Manhattan, New York City, is but 36,000 g.p.m. Thus the auxiliary firemen at the National Capital achieved a mark that will be hard to beat when they turned out 50,000 gallons per minute from 300 hose streams. The amount of gasoline used in this demonstration was not reported.

THERE should be a lot of fires in towns like our own this winter. With the rush of wartime activities, lots of folk are neglecting the simple but essential maintenance routines essential to safety. Take a stroll along the main streets of town and notice the number of chimneys that now need repointing, and the number of old wooden roofs in dangerous condition. It will be most unusual if some sparks do not get through the cracks this winter and set fire to attics, or to the roofing that needs replacing. It may be a friendly act to merely remark to a neighbor: "I see, Jim, that you are planning to have a fire." He will ask, "Why?" in startled tones. You can then point out the part of his property that is obviously unsafe.

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—THE VOLUNTEER FIREMAN

THE U. S. Committee for Economic Development is charged with the job of planning an orderly change-over from war-time to peacetime economy. The Committee has asked us to call to our readers' attention the importance of planning useful peacetime work that can be tackled by the 10,000,000 men in the armed forces and the other millions working in war plants, when the war is over.

The N.F.P.A. Board of Directors has already recognized the need for long-range planning in the fire protection field and has appointed a special committee that will study such matters as fire department manpower and equipment, restoration of pre-war fire protection standards, changes in industry, developments in housing, and other problems involving fire safety.

While there is still a lot of fighting to be done across the water, sound planning takes time and each fire department should begin to give some thought to improvements to come after the war. The opportunities for increased fire protection are so many and varied that there should be little excuse for idle hands when the boys get back.

N.F.P.A. President, Dr. David J. Price, has called attention to the great need for fire protection in rural areas. He suggests that much of the auxiliary fire apparatus now stationed in cities might be allocated to volunteer fire departments for farm fire protection work and states that such a plan should result in "a marked reduction in farm and rural fire loss."

Another suggestion worthy of much study in every community is that plans be adopted for the installation of a modern fire alarm box system. Pumpers, ladder trucks, rescue and salvage trucks are of little avail unless an alarm is received in time. Fire reports coming to the N.F.P.A. Department of Fire Record each day show that many small communities still rely upon the telephone for fire alarm service. Numerous instances are reported where, despite the best efforts of the telephone company employees, confusion and delays have resulted in the handling of fire calls. Good fire alarm systems are available that are within the financial means of almost every community. Improvements in fire alarm facilities should be one of the "priority jobs" after the war.

Another project that will deserve attention of many departments will be the need for a new fire station. All too many fire departments are without an adequate home of their own or are quartered in outmoded structures that are frequently little more than sheds. Such stations lack the facilities needed for modern fire service.

Fire Departments of the Future

By Horatio Bond, Chief Engineer
National Fire Protection Association

MY first reaction to the subject * assigned was that it was one of those topics which a program chairman digs around and comes up with because it sounds good on the published program. But then I thought of the British cities burned in 1940 and 1941 and of the German cities that we are now burning. And of the fire destruction in this war in China, the cities of the East Indies and in Russia. "What is it you have been doing?" I said to myself, "If it isn't learning from these fires something about the specifications of the fire departments of the future?"

I was sent to England by Director Landis of the U. S. Office of Civilian Defense to learn what I could that would be helpful in our fire defense here. I was given every assistance in England. One advantage I had was being identified with the National Fire Protection Association. Because the N. F. P. A. is international, many of the prominent persons in the fire field in England were long-time N.F.P.A. members and perhaps as a result were particularly gracious to me.

Except in organization, British fire brigades are much like our fire departments. There are minor differences in appearance and in practices. Apparatus is essentially the same as ours. They have the same range of pumpers: heavy ones, over 600 GPM; large ones 500 GPM. These are the basic units. They are called "heavy" and "large" to distinguish them from a very large number of light pumpers of about 200 GPM which have been added since the war.

They use mostly snap couplings and linen hose, although they now have much American and Canadian single-jacketed cotton rubber-lined hose. They favor rolling hose, rather than laying it in hose beds as is done in this country and Canada. They have a high regard for certain of our fire department procedures in this country; for example, they are much impressed by the fire prevention educational campaigns which many of our American fire departments (particularly those on the west coast here) carry out so effectively to enlist public support.

There is an interesting reason why, in normal times, fire fighting had not assumed the importance in England that it has in the United States. It is so simple that little emphasis has been placed upon it in reports which have come from England in peacetime. England simply does not have extended periods of dry weather such as we have in various parts of this country. Fire frequency is, therefore, very much lower than with us. If you could count on having a high relative humidity day in and day out as they have throughout the British Isles, it would not be necessary to worry about fires starting and spreading with tinder-like rapidity. For example, you will seldom find equipment for fighting grass fires on British fire apparatus. The day-to-day fire problem in normal times in England is, therefore, much simpler than it is with us.

THE air raids in England brought forth numerous lessons of importance to the fire service. First and foremost, these showed that the public fire fighting forces must be strong and well equipped. The strength is not primarily a matter of the number of men or the amount of apparatus. Rather, it is strength that comes from a fire force organized to give service over a wider area than is served by the ordinary municipal fire department.

In Britain one fire service was established for England and Wales, another for Scotland and a third in North Ireland.

The decision in Britain to set up a service under a single direction for all of England and Wales and to set up a centrally directed force in Scotland and another in North Ireland did not come easily. When war broke out there were approximately 1,400 separate fire brigades in England and Wales administered by local units of government. These local units in the United States and Canada would, for the most part, correspond to municipalities.

This, then, was about the way things stood when the blitzes began. A fire service which, pre-war, numbered 6,000 professionals had been increased by some 80,000 auxiliary firemen. In addition, 150,000 part-time auxiliary firemen were added. No less than 25,000 auxiliary pumpers and other appliances were put into service. Briefly, the effect was to multiply the fire-fighting forces 15 to 20 times. I hope you will try to form a mental picture of what this multiplication meant in terms of pumpers and manpower as this is important to fully understand the new wartime situation in fire departments.

This was the sort of force which went through the battle of Britain in the fall and winter of 1940. The concentrated raid, as on Coventry, developed. The principal municipal center in England is, of course, the London metropolitan area. There are other large centers, notably around Liverpool and Manchester in the North, and Birmingham in the Midlands. Each of these centers was hit with raid after raid. The culmination was the great fire raid on London in December, 1940. Later, in April and May, 1941, there was another period of heavy raids. It was not until then that a bill to create a National Fire Service was, after debate, adopted by parliament. By this bill 1,400 fire brigades were consolidated into approximately fifty forces. Because the exact protection of any given area in England is necessarily a wartime secret, I can give you no definite figures, but it would be of some interest to you to have an idea of what one of these fifty new fire forces is like.

IN metropolitan areas there would be a separate fire force for approximately each million people. The British fire forces are similar in numerous respects to county fire forces as you have right now in California, in Los Angeles and Kern Counties. The parallel is not exact in all details, but the idea is the same and it shows that the idea is not without precedent in this country.

You can see that a fire department or fire force big enough to give protection to a population area of a million people, or a large area such as a county is a respectable force with apparatus and personnel enough to give substantial protection.

It is also comforting, I am sure, to note in particular, that the fire service was not, in England, swallowed up in the general organization for civil defense. The British fire service is entirely separate from other civil defense agencies and is entirely under the direction of its own officers.

We are likely to work out some of the details of our fire department wartime plans differently than they did in England. We start in more favorably, with normal fire departments much stronger in manpower and with more pumping equipment. We do not face the immediate likelihood of heavy raids without adequate time to prepare for them. But we are likely to have most of the same problems, if different in degree, and some of the things that happened there may well happen here.

(Continued on Page 20)

*Digested from a speech given before the Pacific Coast Fire Chiefs' Association, Reno, Nevada, August 25-26, 1943.

THE ORIGIN AND USE OF THE FIRE MARK

THE Great Fire of London taught its lesson. During the very next year, 1667, the first fire insurance office was established, by Dr. Nicholas Barbon. Shortly after its reorganization in 1680, the Fire Office, as it was known, formed a "company of men versed and experienced in extinguishing and preventing of fire." This was the first fire brigade in London and — if we except the guards at Kingsay, now Hangchau, China, to which Marco Polo referred — the first organized body of firemen that we know of anywhere since the time of the Roman "Matriculatii" and "Cohortes Vigilum."

Naturally, the Fire Office created its brigade for just one purpose — to protect the property of those insured by the Office, thus preventing losses which the Office would be called upon to pay.

In order that the firemen might readily distinguish insured from uninsured properties, the Fire Office adopted as an identifying mark a metal plate in the form of a Phoenix rising from the flames. This Fire Mark was nailed up in a prominent spot, about level with the second story windows, on all houses insured by the Office.

The idea of fire insurance took rapid root; and, with the advent of rival companies, the original Fire Office soon found it necessary to adopt a more distinctive name. Accordingly, in 1705, it assumed the name of the Phoenix Fire Office, a name obviously suggested by its Fire Mark. Under this name, it continued in existence until some time in the early part of the eighteenth century.

Each of the other fire insurance companies had, of course, its own fire brigade and its own Fire Mark. As a result, when an alarm was raised, all the brigades responded on the double-quick. On arriving at the scene of the fire, they looked for the Fire Mark. Whereupon all except the one brigade whose emblem appeared on the house either turned tail and went back to bed or, more frequently, remained nonchalantly in the background to cheer and jeer the firemen of the rival "office."

If the building had no insurance — and no Fire Mark — the hapless owner had to depend on the ineffectual buckets of his neighbors and friends. Needless to say, he usually got the insurance — and the Fire Mark — as soon after as possible.

All of the early Fire Marks in London were of lead with the number of the insurance policy usually stamped on. They were brilliantly painted, generally in red and gold; and, as the amount covered by a policy was usually very small, frequently the marks of five or six different companies were found upon the same risk, which must have given the old-fashioned houses a rather gay appearance. A rhyme published in 1816, referring to a certain overdressed English lord, aptly says:

"Fir not e'en the Regent himself has endured
(Though I've seen him with badges and orders all shine
Till he looked like a house that was over-insured) —"

Gradually, as business increased, and many buildings became insured in more than one company, the brigades began to unite and attend all fires. From then on Fire Marks lost their original significance, and were finally supplanted by what collectors now call Fire Plates, usually made of copper, tin or iron, and used solely as advertisements. So strenuous was competition among the various companies, and so eager were they to have their Plates displayed, that one large company used to keep a man with a ladder constantly employed in putting up its Plates wherever space was available, regardless of whether it had policies on the risk or not.

Finally, in 1833, the fire brigades were all amalgamated into one company and in 1866 were turned over to the City of London. This was the beginning of the "Metropolitan Fire Brigade of London," and in so far as that city was concerned, the end of the picturesque Fire Mark.

THE early American colonists, with their pioneer aggressiveness devoted themselves to the active phases of fire combat, neglecting fire in-

This article was made available to "Volunteer Firemen" through courtesy of the Insurance Company of North America.

surance in spite of the fact that insurance was well established by that time in Europe. Bucket brigades were in operation as early as 1696; a fire engine was brought over from London in 1718; two more were imported in 1731; and, finally, the following year, a Philadelphia mechanic, Anthony Nicholls, built a very successful model which "played water higher than the highest in this city had from London."

In 1736, Benjamin Franklin and several other prominent Philadelphians established the first organized fire brigade, which continued as the Union Fire Company for over eighty years. Other companies quickly followed until, in 1752, there were no less than six in Philadelphia, with an aggregate membership of 225, employing 8 engines, 1,055 buckets and 36 ladders.

Each of these old fire companies had its own name, insignia and full regalia. A fireman was a sight wondrous to behold — resplendent in high hat, gaudy cape, huge belt and buckle with his insignia engraved thereon. Fully equipped he proudly bore horn and axe, leathern bucket and linen bag (to protect salvage from looters).

Originally, these fire companies were organized simply for mutual assistance. Each member paid for his own buckets and other paraphernalia. Their efforts were mostly confined to protection of their own members' homes. Many prominent citizens belonged. Later, volunteer companies were formed on a purely free-lance basis, putting out whatever fires they were able and depending for pay on the bounty of the owners.

In 1752, the first American fire insurance company was formed, again under the inspiration of Benjamin Franklin. This was the Philadelphia Contributionship for the Insurance of Houses from Loss by Fire. Only five weeks after organizing, they ordered a hundred Fire Marks from John Stow who was, a year later, to recast the historic Liberty Bell. The Mark consisted of four leaden hands, clasped and crossed a la "My Lady to London," and mounted on a wooden shield. From this mark, the company became popularly known as the "Hand-in-Hand." In 1792, the Insurance Company of North America was formed — the first American fire and marine insurance company. Other insurance companies sprang up and new Marks appeared, some companies issuing variants of their original Marks at different periods of their existence.

Contrary to the English custom, these companies did not maintain fire brigades of their own but relied on the volunteer fire companies already flourishing. The American Fire Mark had, therefore, a very different mission. In the first place, an insurance company's Fire Mark on a house was intended to discourage malicious arson by showing that the owner himself would not greatly suffer if the building were destroyed. Secondly, the Fire Mark stood as a guarantee to all fire brigades that the insurance company which insured the house in question would reward handsomely the brigade extinguishing a blaze on the premises. Stimulated by higher and more certain compensation, competition among the

fire brigades waxed hot, soon reaching a stage of bloody noses and blackened eyes.

In 1871, Philadelphia inaugurated the first paid Fire Department. From that date, Fire Marks lost their usefulness and were discontinued.

THE one hundred and seventeen old American Fire Marks in the collection of the Insurance Company of North America are, with one exception, all original specimens. They date from 1752 and make up the most complete collection known, having been gathered from eighteen States of the Union. The exhibit at 1600 Arch Street, Philadelphia, is now open to the public and visitors are welcome.

Gathering a collection of rare Fire Marks as complete as the North America requires more research, ingenuity and sheer persistency than anyone other than a collector could realize. The story of how just one prized trophy was acquired is a real romance.

In 1914, an authority wrote, concerning the Insurance Company of North America, "this company had two Fire Marks. The first was adopted December 8, 1794, as 'a wavy star of six points, cast in lead and mounted on a wooden shield.' I believe no specimens are in existence."

Later the company adopted the "Eagle" Fire Mark of lead on wood of which not more than two specimens have survived the ravages of time. A well-preserved specimen is in the collection.

In 1915, another wrote, "The only specimens of the Fire Marks of this company now existing are those of the 'Eagle' variety."

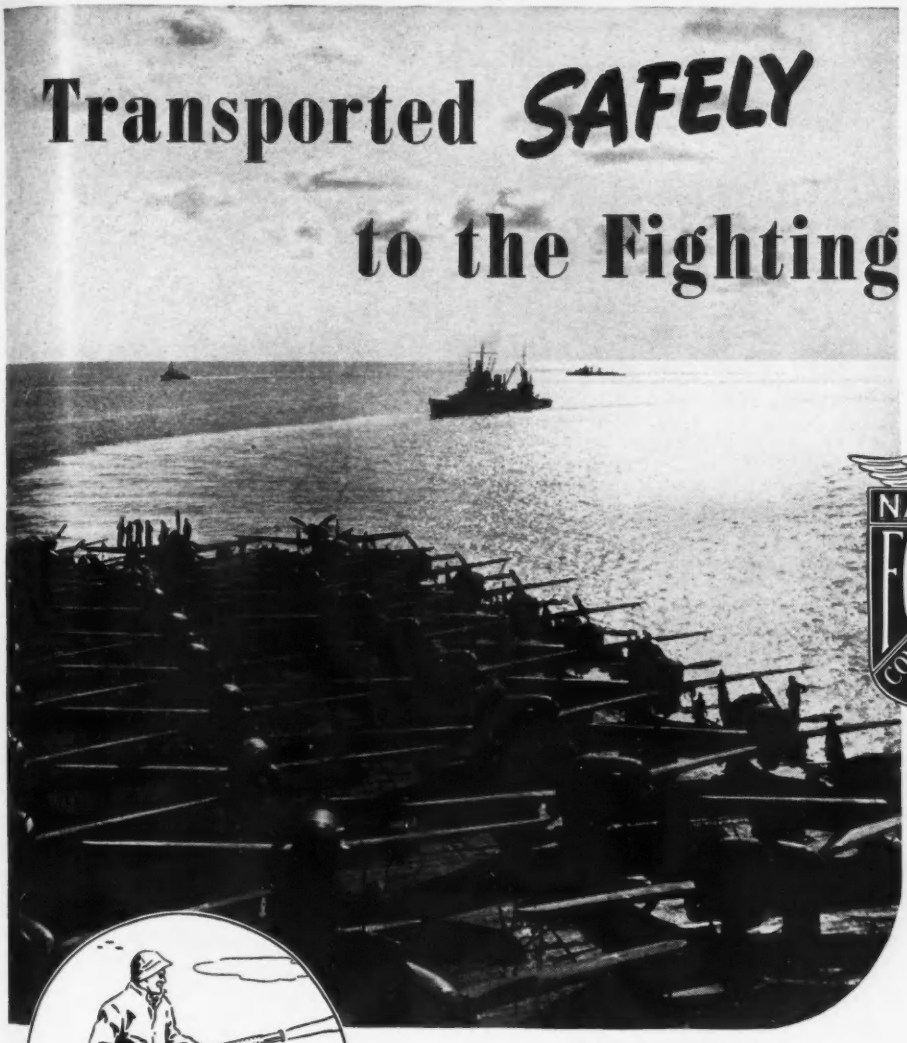
In 1928, another wrote, "No specimens of this Mark (the 'Star') are known to exist, the last one located having appeared on the building at 229 South Front Street, Philadelphia, in 1879."

The hunt for the "Star" began when a noted collector and authority discovered a tell-tale stain on a brick house in Race Street, near Second, Philadelphia. This stain was exactly the same shape as the shield of the lost "Star" Mark, as shown on an old etching of the company's first office building where the artist had outlined the "Star" Mark over the doorway. Tracing back from the owner of the building to his father and grandfather, the wooden shield was at last located in the possession of a carpenter. What a disappointment, though, to find a shield of the right shape and age — but nailed on it a not at all rare "Fire Plug" Mark of the Fire Association of Philadelphia! Closer examination showed under this more recent Mark a faint outline which proved that the shield originally carried the "Star"!

With whetted appetites, the searchers sought for clues. The best was a vague recollection by the grandfather of having sold the metal "Star" to a "second-hand dealer from Baltimore." Then to Baltimore and a systematic combing of every antique and second-hand shop in the city. At length, on the outskirts, they found a dealer who said, "Sure, there's a star here. Been here for years — long before I bought the shop."

Chemical tests proved the age of the lead; and, what is more, the "Star" fitted the old wooden shield precisely — nail hole for nail hole, line for line! Today this one North America "Star" stands unique, the rarest of all Fire Marks.

Transported SAFELY to the Fighting Front



NATIONAL FOAM CONTINUOUS FOAM PRODUCTION SYSTEM

Official U. S. Navy Photograph

Arriving safely at their destination, their protecting convoy swings astern. Protection for this carrier against fire also was not overlooked as no hazard is more dreaded than a fire at sea.

National Foam Fire Protection has been adopted and is being used extensively by the U. S. Navy, by most oil refineries and by many other large industrial plants. National Foam extinguishes the most hazardous and difficult types of fires by shutting out the oxygen with a gas-tight foam blanket and effectively eliminates flashbacks.

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The N. F. P. A. in Wartime

by Dr. David J. Price, President

National Fire Protection Association

THE National Fire Protection Association is a non-profit technical and educational association organized to promote the science and improve the methods of fire protection and prevention, to obtain and circulate information on these subjects and to secure the cooperation of its members in establishing proper safeguards against loss of life and property by fire.

The Association has two basic functions: One is to make the standards under guidance of which the fire waste may be checked; and two, to educate the people in the observance of those standards and point out the grievous economic penalties for ignoring them.

There are two principal classes of membership. Organization members of the Association are national institutes, societies and associations interested in the protection of life and property against loss by fire and state associations whose principal object is the reduction of fire waste. The Association has a distinguished and representative group of organization members, including such associations as the American Institute of Architects, the American Water Works Association, the International Association of Fire Fighters, the National Board of Fire Underwriters, the Motion Picture Producers and Distributors of America, the Terminal Elevator Grain Merchants' Association, and the U. S. Conference of Mayors.

Associate membership is open to any individual, firm, corporation or society. There are over 7,500 associate members of the N.F.P.A. from thirty different countries. This membership includes architects, builders, merchants, manufacturers, fire marshals, fire chiefs, firemen, electricians, credit men, insurance executives, insurance field men and agencies, brokers and engineers, chambers of commerce, public libraries, etc. Dues for associate membership are $10 annually, the membership year beginning with the date of the member's election. There is no initiation fee or other expense for membership and members are not pledged to any course of action through their membership.

Sections

The Association operates a number of sections. The Fire Marshal Section is made up of the state, provincial and city

fire marshals and chiefs of fire prevention bureaus. The section serves as a clearing house of information for this important group of officials which are on the front line of fire prevention activity.

The Marine Section of the Association is made up of ship owners and operators, naval architects, marine underwriters and governmental authorities and has developed many of the standards for safety at sea which are now recognized throughout the world.

One of the most important activities of the N.F.P.A. is its Volunteer Firemen Section organized to reach the fourteen thousand odd volunteer fire departments throughout the United States and Canada with useful information about measures of fire fighting and fire control. Over seventeen thousand volunteer firemen representing hundreds of volunteer departments throughout the country are now enrolled in this section.

The Association also maintains a section for the benefit of fire prevention committees of local chambers of commerce and safety councils and is now organizing a Transportation Section for the benefit of railroad men concerned with fire protection problems.

Technical Activities

Practically all of the standards in the fire field utilized by fire insurance organizations and also state and local legislation have been prepared by technical committees of the National Fire Protection Association. The Association maintains some fifty technical committees made up of experts in their fields and covering a wide variety of subject matter. Included among the committees are those on air conditioning, aviation, building construction, dust explosion hazards, electrical, farm fire protection, firemen's training, hazardous chemicals and explosives, municipal fire apparatus, spontaneous heating and ignition, and truck transportation. A vast service to the welfare of the country is rendered by these technical committees made up of men who give freely of their time and talent to the cause of reducing loss of life and property by fire waste.

Public Education in Fire Prevention

The Association is devoted to the cause of educating the public in at least the simple measures for fire control and has developed a vast body of popular literature of an educational nature. The Association sponsors Fire Prevention Week, the Spring Clean-Up Campaign and through its cooperating member organizations carries on extensive educational activities the year round. I know of no field of endeavor where there exists a more competent body of technical and popular literature than in the field of fire protection and control.

Fire Record Service

The Executive Office of the National Fire Protection Association at 60 Batterymarch Street, Boston, Massachusetts, maintains a Fire Record Department and classifies fire information by classes of property, occupancy, cause, etc. This valuable record gives to the membership of the Association authoritative fire experience on the predominating fire causes in any type of occupancy and on the effectiveness of special forms of fire protection. Exhaustive fire reports on various classes of occupancies are published periodically.

Publications

Probably the best known of the Association's publications is its Quarterly magazine which for many years has been the standard medium of technical information in the fire field. The Quarterly reports on all new developments in fire control and special hazards and contains reports of important fires and compilations of fire statistics.

The Association issues a monthly News Letter which keeps its members fully informed with current developments in the field and matters of fire protection interest throughout the world.

The Proceedings of the Association's Annual Meeting are published in full and

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Digest of an address before the Fifth Annual Firemen's Training Conference, Lewistown, Pennsylvania, August 16, 1943.

this stenographic record of the transactions of the Association is an extremely valuable reference.

The Association publishes numerous technical standards and informative brochures, prepared by the technical committees, and educational posters, leaflets and pamphlets in great variety. Special reports on conflagrations are issued. A special monthly magazine is published for the members of the Volunteer Firemens Section and the Association is the publisher of the Handbook of Fire Protection which is the authoritative reference volume in the fire field.

Wartime Activities

Since December 7, 1941, and, in fact, for a very considerable period prior to our actual entry into the war, the National Fire Protection Association has turned its efforts almost wholly towards activities that are of direct value in the successful prosecution of the war. Many special publications designed to meet conditions arising from the war have been developed and been widely circulated. Among those of great popularity have been Fire Defense — a book issued about a year before the outbreak of the war and containing widespread information on fire defense in wartime, the Handbook for Auxiliary Firemen — which has become the standard for training auxiliary firemen throughout the country A Training Manual for Industrial Fire Brigades — reports on all important fires affecting the war effort and many special bulletins typical of which are Dust Explosion Hazards of Powdered Metals, Synthetic Rubber, Trailer Pumpers, and Public Water Supplies in the War Emergency.

Shortly after the outbreak of the war the Board of Directors of the Association instructed the Executive Office staff to devote as much time and effort as seemed desirable to matters connected with the war effort and that order has been consistently followed to the fullest extent. The officers of this Association feel that the principal function in wartime is to provide our members and others with every bit of useful information possible to further the war effort, and since the outbreak of war, the Association has been pouring out material in greater volume than in any other period in its history.

The General Manager of the Association, Percy Bugbee, has been serving as Chairman of the Advisory Council to the War Department on Fire Prevention, other members of the Council being two members of the Board of Directors of the Association. This Council was organized in October, 1942, and meets regularly to make various recommendations to the War Department designed to increase the efficiency and effect of the War Department activities in the fire protection field. As a

(*Continued on Page 18*)

Midwestern's Firemen's Suit

WE OFFER YOU

a real special combination suit of Midwestern Rubberized Coat and Bunker Pants, with detachable wool linings. Flexible elastic inner sleeve for wrist. Keeps out water, cold and sparks. All Midwestern coats are so equipped. The coat with Bunker pants, below, are Midwestern's outfit No. 101.

1—Adjustable collar strap.
2—Reinforced collar band for lining.
3—Lining attached with quick snap buttons.
4—Corduroy lined collar.
5—Reinforced, double stitched seams.
6—Reinforced by rivets at points of strain.
7—Verticle seams in sleeve shoulders.
8—Inside of fabric, heavily napped cloth.
9—Midwestern safety snaps.
10—Two outside pockets.
11—Midwestern's Special Vanitex fabrics.
12—Lining edges reinforced with rubberized fabric.
13—Wool detachable lining.
14—6-inch storm flap.

BUNKER PANTS

1—Lining held by snap buttons.
2—Rubberized fabric belt in lining.
3—Eight suspender buttons.
4—Safety snap on belt.
5—Two side and one hip pocket.
6—Wool lining.
7—Reinforced adjustable belt.
8—Midwestern's Special Vanitex fabrics.
9—Wide protecting flap.
10—Reinforced by rivets.
11—Cloth crotch pads for pole sliding.
12—Reinforced double stitched seams.

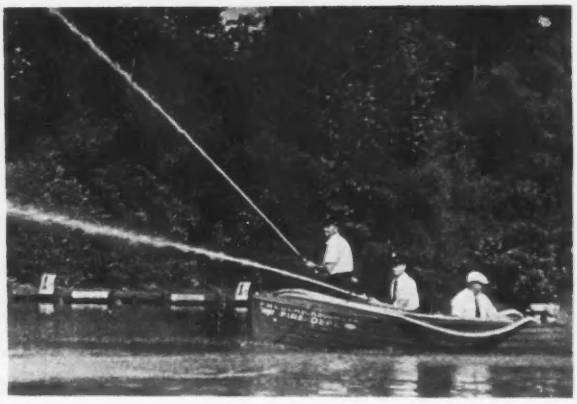
This wool lining can be added to any Midwestern Bunker Pants at a small additional cost.

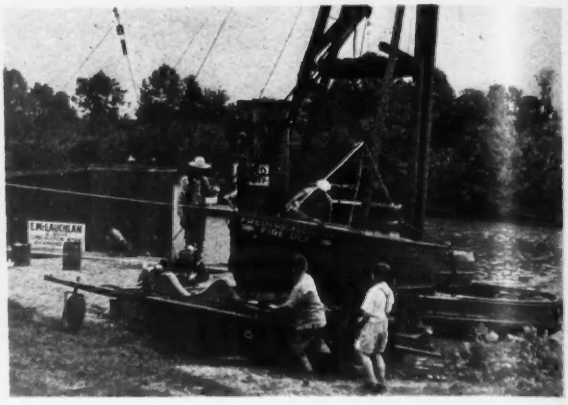
BUY WAR BONDS

BUY WAR BONDS

MIDWESTERN MFG. CO. Mackinaw, Illinois

Original designers and manufacturers of Striped Safety Coats





Fredericksburg, Virginia, Operates a Fireboat

By Assistant Chief J. Ford Walker

A YEAR ago or so, Fredericksburg, Virginia, suffered a serious flood when the waters of the Rappahannock River rose forty-five feet above their average level. The flood covered much of the business district as well as a large portion of the residential area. Several sections were isolated and residents had to be rescued by means of small outboard motorboats. During the flood a number of gasoline and oil storage tanks were swept from their foundations. The contents of these tanks were ignited and flames spread over the flood waters threatening the business district of the city. Good work by the Coast Guard and firemen prevented these fires from doing serious damage.

Following the flood and fire it was evident to the fire department that a small boat was needed for use by the department in both fire fighting and rescue work. Through the generosity of Benjamin T. Pitts, a public-spirited citizen, such a craft was obtained, equipped and presented to the department.

The craft selected was a 14-foot seagoing runabout provided with two separate outboard motors. One motor provides 9 h.p. and is chiefly used for harbor work and for maneuvering at fires. The other motor is a 22 h.p. Johnson outboard unit used chiefly for speedy rescue work as this motor will propel the craft at approximately thirty knots.

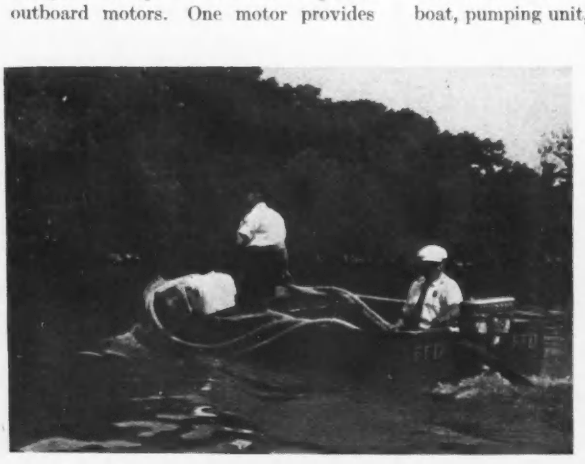
The pumping capacity available with this fireboat is almost amazing for a craft of this size. It consists of a 350 g.p.m. pump driven by a 4-cylinder motor. This pump will more than take care of four good lines of 1½-inch hose. The pump is mounted on a frame and can be placed in the boat or removed for operation at waterfront locations that cannot be reached either by the fireboat or by regular land pumpers.

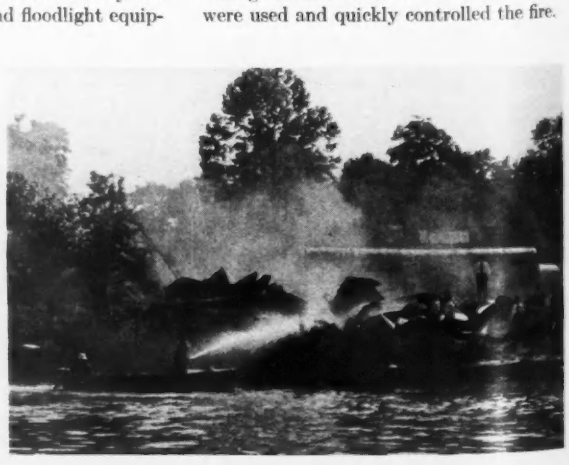
The department has also recently acquired a 115-volt generator developing 1250 watts. The cost of the generator, motor, four 250-watt floodlights, and materials amounted to more than six hundred dollars and was donated by local merchants and business men. This floodlight equipment may be used either on land or in conjunction with the new fireboat.

A trailer was constructed to carry the boat, pumping unit, and floodlight equipment. As shown in one of the pictures this trailer has a small third wheel in front which makes it easy to maneuver. When the boat is not required the trailer unit can be used as a 350 g.p.m. trailer pumper or as a floodlight unit alone. A special launching crane has been provided at the Standard Oil Company dock on the river to facilitate the rapid use of the fireboat as well as other small craft.

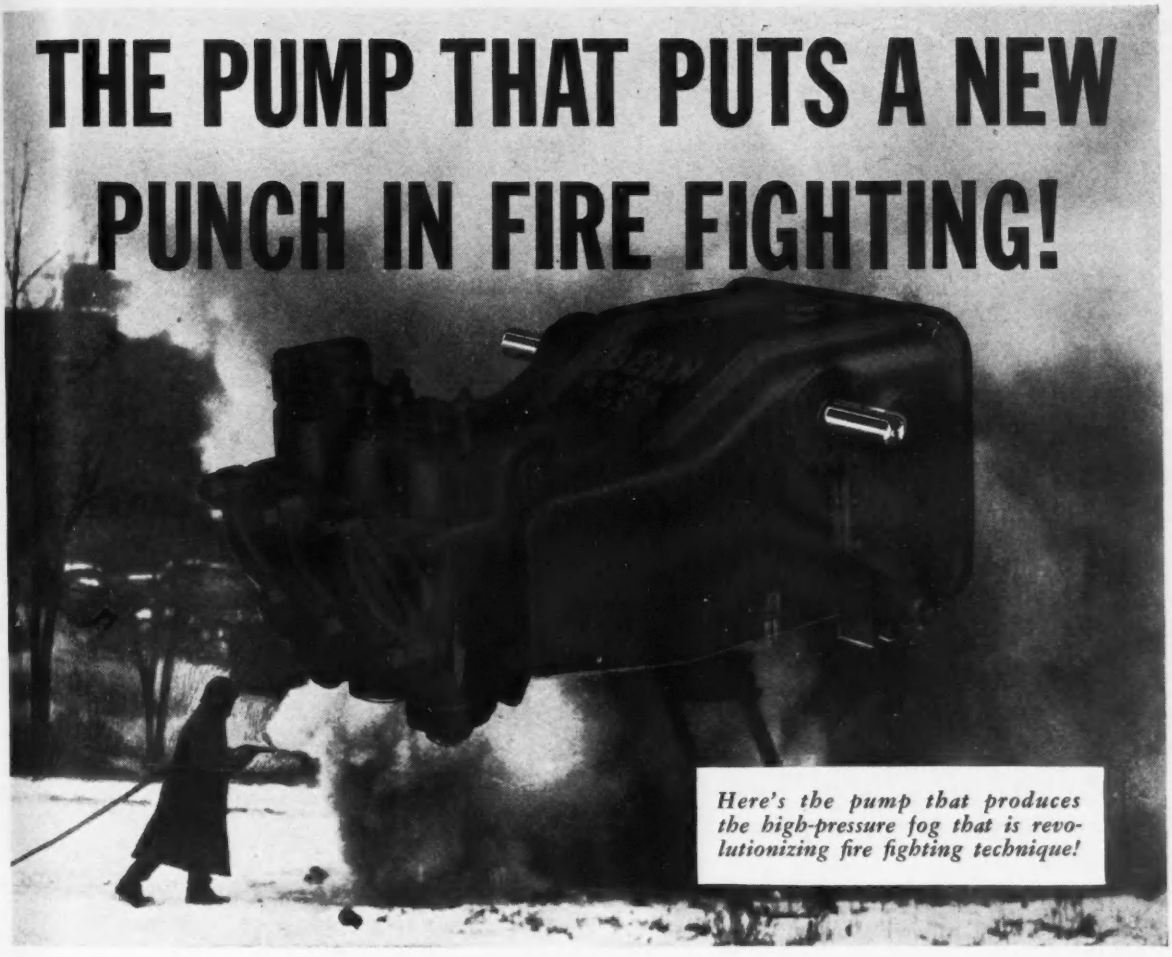
The fireboat was formally accepted by Fire Chief Tom Lamont at impressive ceremonies held on June 6th. Mayor Marshall King made the presentation. A demonstration of fire fighting and rescue work was then given under the direction of the writer who carried out the actual work of assembling the equipment.

Shortly after the fireboat was officially placed in service, a fire was discovered on an important highway bridge on route U.S. 1 at the town of Falmouth. This was on the main road between Washington, D. C. and Richmond, Virginia. The fire could not be reached by other pumping equipment but utilizing the portable pump taking suction from the river four lines were used and quickly controlled the fire.



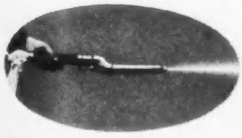


THE PUMP THAT PUTS A NEW PUNCH IN FIRE FIGHTING!



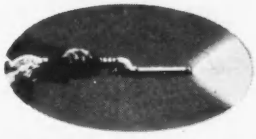
Here's the pump that produces the high-pressure fog that is revolutionizing fire fighting technique!

Delivers 600 lb. Pressure Fog at the Nozzle!

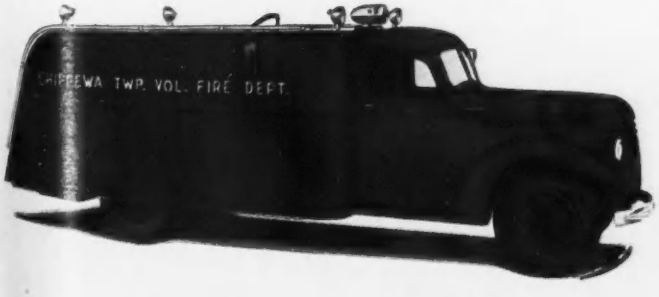


ONE MAN *handles Fog Fire Gun and hose. Stream can be adjusted with one hand.*

Efficient for use with 600 lb. or more nozzle pressure only.



FOG FIRE GUN *graduates from straight "power" stream to close-up fog.*



This 3 cylinder, all enclosed, oil bath, plunger type pump is the "heart" of the FMC Fog Fire Fighter. And what a fighting heart it is! Pumps 60 gallons of water a minute; built for much higher pressures it easily gives 600 lb. nozzle pressure (800 lbs. at pump) without overworking. Breaks up water so fine that one gallon properly used has the fire quenching possibilities of 35 low-pressure gallons. Makes fog that puts out fires faster with no water damage and no water shortage.

Don't confuse FMC High-Pressure Fog with *any other system.* There's nothing else like it for speed, for efficiency, for all-type fire protection. Proved on hundreds of fires all over the country. Get details from John Bean Mfg. Co., Lansing, Mich., or Bean-Cutler Division, Food Machinery Corporation, San Jose, Calif.

FMC FOG FIRE FIGHTERS *are low cost units. Carry own water and equipment. Several models.*

FMC *Original* FOG FIRE FIGHTER

FOOD MACHINERY CORPORATION

JOHN BEAN MFG. CO., 753 HAZEL ST., LANSING 4, MICH. • BEAN-CUTLER DIVISION, 453 JULIAN ST., SAN JOSE, CALIF.

MAKING A GOOD JOB OF IT

BY WARREN Y. KIMBALL

Protecting Exposures at Country Fires

THE fire pictured above will not look important to some folks. They will say, "It's just a farm fire," because they do not realize that farm fires are one of the greatest drains upon our present war program. In the United States we burn up at least $90,000,000 worth of farm property a year — not to mention the hundreds of human lives and the livestock lost.

With every American pulling in his belt to the tune of ration points, and Allies in other parts of the world faced with actual starvation, there is no more important job that any volunteer fire department can do, than to protect rural property within reach of its apparatus.

Take another look at the picture. There is no one in sight. No apparent efforts are being made to fight the fire. It is true that one building is already beyond saving but any experienced rural fire fighter can tell of a dozen "stops" made under conditions at least as difficult as would have been the job of saving the exposed barn at the right. Even where no water supplies are available for pumpers, the large booster tanks usually provided on rural fire trucks are usually adequate to protect exposures.

Almost any volunteer fireman will admit that this is the type of fire-fighting job that he gets "a real kick out of" if it is possible to stop the blaze dead. If enough water is available a good plan is sometimes to charge the line right up toward the open body of flame and sweep the nozzle into the heart of the fire for a few seconds, deflecting the stream against available surfaces to get good distribution over the fire. This will usually cool down the main body of fire sufficiently so that it will be possible to then utilize the line to protect the exposed property without taking terrific punishment from intense heat. Of course, pretty good pressure is required to make such a maneuver successful. It is surprising how quickly a fire can be subdued by a good stiff stream worked for even a short time at close range.

Many firemen take needless punishment from intense heat when trying to protect exposures because of a wrong interpretation of the old fire fighting rule that it is most important to protect exposures when the main fire is beyond control. This rule has led to the false notion that no water should be put on the main fire but that all the streams should be directed at the exposed buildings. This is an idea that just does not make sense.

It is true that no water should be put on the main fire if there is only enough water available to prevent the exposures from igniting, but this is seldom the case. Even if it is not possible to extinguish the main body of fire it is often possible to slow down the rate of burning so as to materially reduce the amount of heat given off at any one time during the period of fire exposure. If the amount of heat being given off by the main fire can be reduced the danger to nearby property is much reduced and the firemen will be able to remain in positions from which their streams may be used most effectively in the important work of covering exposures.

TO state the matter in another way, every pound of a given combustible material such as wood gives off a certain amount of heat when burned. It happens that a gallon of water has a theoretical cooling effect of a little more than 8,000 B.T.U. (British thermal units) if utilized to maximum efficiency, while burning wood gives off about 7,500 B.T.U. per pound when completely burned. Thus it may be roughly stated that a gallon of water will more than cool off the heat that can be generated from the burning of a pound of wood. Actually the water will do much more than this because steam generated from the water has a blanketing effect that tends to exclude the oxygen from the combustible material and thus stop the burning.

Further, when streams are being used to cool fires to protect exposures it may not be necessary to completely extinguish the main fire if that building is beyond saving. In fact, it may not be possible to prevent the property already burning from being completely consumed. What the fireman is seeking to do is merely to slow the rate at which heat is being given off so that nearby property will not be endangered. For example, if a pound of wood burns in one minute it will give off about 7,500 heat units. But if the fire can be cooled down so that it takes ten minutes for a given pound of wood to be entirely consumed the amount of heat given off will be only 750 heat units per minute. As much of this heat will be safely dissipated, the fire department can do a good job of protecting exposures as long as it can keep the main fire slowed down at least in the area closest to the exposed property.

Often when firemen arrive at a burning barn it will be noticed that the flame is a yellowish-white in color and the heat is very intense. According to a flame temperature chart prepared by the American Society of Heating and Ventilating Engineers, a flame of this color has a temperature of 2372 degrees F. As soon as an effective hose stream has been placed in operation it will be noted that the flame usually changes to a red color. A red flame, barely visible in the daytime has a temperature of 975 degrees while a light-red flame has a temperature of 1832 degrees. This indicates that the hose stream has quickly reduced the temperature. While most species of exposed wood will ignite at temperatures below 500 degrees F. it is obvious that it is a lot easier for fire fighters to protect exposures against fires that are giving off temperatures of say 1000 to 1800 degrees, than against temperatures of 2300 to 2400 degrees, such as may be expected when no water is thrown on the main fire.

WHERE the amount of water is too limited to permit the use of even a small amount on the main fire the most successful practice is usually to watch the exposed property closely and if any point begins to smoke to a considerable extent or appears ready to burst into flame, the

line should be rushed in and the endangered area wet down at close range. Then the line may be withdrawn and shut down to conserve water.

One of the most serious and most frequent mistakes observed where inexperienced fire fighters are attempting to protect exposures is the practice of throwing water toward a fire from a comfortable distance. Such a practice wastes valuable water and cannot be effective in protecting the exposure. It is much better to work the line as close to the fire as possible and then back out of the heat to cool off because you will know that every drop of water is actually killing fire. Someone has said: "surrounding a fire does not make it surrender. The attack must be pressed home."

When protecting an exposed wall with a hose stream care must be taken not to strike the glass of exposed windows forcefully. This may cause heated window glass to break, making an opening through which the heat may enter. It is much more difficult to keep temperatures down below the ignition point once the heat has built up inside of an exposed building. If necessary, an extra booster line can be used inside of the exposed property to back up the stream in use on the outside.

When it is necessary to work a line between an exposed building and the main fire, there are two precautions that help make it possible to endure the great heat. One is to have the hose crew rotate positions so that no one man will have to stay on the hottest side for more than a short time and so that the heat may be absorbed on both sides of their bodies. The second factor of importance is to have each man wear proper fire-fighter's clothing as a protection against the heat (regardless of the time of year). In this connection it should be pointed out that a rubber type fire coat alone is not good protection. The heat will go through the rubber unless another coat is worn underneath and blisters may be formed on the skin. Much better protection is afforded by fire coats made from canvas or other waterproofed fabrics having proper linings that resist the penetration of heat. A fire helmet is also important to protect against heat. Even when the heat from an exposure is intense a properly clothed fireman can work close to a fire which is too hot to face from a considerable distance without fire clothing. Another good idea is to carry a pair of cotton or woolen gloves in the firecoat pocket so as to protect the hands against heat.

Nothing has been said here about the use of fog or spray nozzles in the work of protecting exposures. A spray will quickly absorb heat but may not have the range needed to permit effective work near very hot exposures.

The difficulty of protecting exposures, of course, varies with the distance and with the wind direction and velocity.

Want Action?

THE FEDERAL FURY EXHAUST WHISTLE Gets it!

The powerful, piercing signal of the FEDERAL FURY Exhaust Whistle clears the way for blocks ahead—giving maximum warning to pedestrians, automobiles and trucks, and maximum protection to your vehicle.

The FURY is ruggedly constructed to give long and unfailing service. It is easy to install, being made in two sizes and individually machined to the correct size to fit your vehicle.

The Fury Exhaust Whistle is simple, rugged, and dependable.

FEDERAL can supply a wide variety of electric sirens for use in those communities which do not prohibit the use of sirens on emergency vehicles.

FEDERAL ELECTRIC CO., INC.
SIREN HEADQUARTERS
8717 South State Street Chicago, Illinois

Fire Stream Data at your Finger Tips

Illustration is one half actual size.

Nozzle Flow on 1/4" to 2" Tips and Friction Loss in 3/4" to 2 1/2" Hose

Obtain your calculator from the BARTON-AMERICAN representative in your territory

AMERICAN-MARSH PUMPS, INC.
Battle Creek, Michigan, U.S.A.

Try C-D/Fog

SATISFY YOURSELF . . .

C-D/Fog seems to freeze fire with a chilling blanket of carbon dioxide. It is safe and efficient on electrical, oil, gasoline, and chemical fires.

C-D/Fog leaves no after-fire mess. Carbon dioxide is a vapor, odorless, tasteless, harmless. It is equally effective in hot weather and at sub-zero temperatures.

C-D/Fog is a product of The General Detroit Corp., manufacturers of chemical fire extinguishers and allied apparatus since 1905—producers of S.O.S. Fire Guard, Alaskan, Floafome, and other famous brands. General Detroit's known record in quality mass production is your assurance of prompt delivery for essential requirements.

Fire Protection is Victory Effort!

THE GENERAL DETROIT CORP.

Former Name The General Fire Truck Corp.

New York • DETROIT • Chicago

West Coast Affiliate: THE GENERAL PACIFIC CORP.
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THE GENERAL DETROIT CORP.
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Please rush details on *C-D/Fog* and others in your complete line of fire extinguishers.

*Name*_____

*Title*_____

Tear out this simplified coupon and attach to your letterhead.

MEMBERSHIP REPORT

N. F. P. A. Volunteer Firemen's Section

LAST month 36 fire departments with 401 men were newly enrolled in the N.F.P.A. Volunteer Firemen's Section which now has a total of 947 departments. This is a 36 per cent increase in the number of departments in the section over the same month a year ago. If every member department makes it a point to tell neighboring fire companies about the National Fire Protection Association and VOLUNTEER FIREMEN we should soon reach the goal of 1,000 fire companies and departments in the Section.

MEMBERSHIP PLAN

- Through the Volunteer Firemen's Section, fire companies may become N.F.P.A. members. Each member fire company is entitled to have VOLUNTEER FIREMEN magazine sent to the homes of ten firemen.
- As a member, the fire company receives at headquarters a set of all other regular N.F.P.A. publications. This includes the QUARTERLY MAGAZINE and monthly NEWS LETTER.
- Membership in the National Fire Protection Association costs ten dollars per year. If more than ten firemen want to receive the magazine, an additional one dollar should be sent for each additional fireman enrolled.

NEW MEMBERS

Second WAC Training Center, Post Engineer, Daytona Beach, Florida
Starke Fire Department, Starke, Florida.
Rigby Fire Department, Rigby, Idaho
Amboy Fire Department, Amboy, Illinois
Kentland Volunteer Fire Department, Kentland, Indiana
Slater Fire Department, Slater, Iowa
Ellis Volunteer Fire Department, Ellis, Kansas
Marysville Fire Department, Marysville, Kansas
Eunice Firemen's Association, Eunice, La.
Camden Fire Department, Camden, Maine
Romeo Fire Department, Romeo, Michigan
Anoka Fire Department, Anoka, Minnesota
Hastings Volunteer Fire Department, Hastings, Nebraska
Tilton Fire Department, Tilton, N. H.
Bellmore Fire Department, Bellmore, New York
Kenilworth Volunteer Fire Department, Kenilworth, New York
Manchester Fire Department, Inc., Manchester, New York
Carrollton Village Fire Company, Carrollton, Ohio
College Corner Volunteer Fire Department, College Corner, Ohio
Malvern Volunteer Fire Company, Malvern, Ohio
Mariemont Fire Department, Mariemont, Ohio
Seville Volunteer Fire Company, Seville, Ohio
Cushing Fire Department, Cushing, Oklahoma
Rescue Fire Company No. 1, Dallastown, Pennsylvania
Elkins Park Fire Company, Elkins Park, Pennsylvania
Oaks Fire Company, Oaks, Pennsylvania
South Connellsville Volunteer Fire Company, South Connellsville, Pennsylvania
Uniontown Volunteer Fire Department, Uniontown, Pennsylvania
Onida Fire Department, Onida, South Dakota
Dayton Volunteer Fire Department, Dayton, Texas
Dumas Fire Department, Dumas, Texas
Plainfield Fire Association, Plainfield, Vermont
Lowell Volunteer Fire Department, Lowell, Washington
Oak Harbor Fire Department, Oak Harbor, Washington
Somerset Fire Department, Somerset, Wisconsin
Wales Volunteer Fire Department, Wales, Wisconsin

Grin and Bear It

By Lichty

"Step on it, Clancy! The last cigar store fire we went to, all we got was the butts."

At the International Association of Fire Chiefs convention in Chicago the Akron Brass Company, of Wooster, Ohio, conducted a guessing contest that attracted much attention. In the center of their booth was placed a huge replica of their Rockerlug Coupling with a small actual-sized coupling perched on top. Visitors were asked to guess "How much larger is the large replica than the actual coupling?" Only seven persons at the convention guessed the correct answer which was six. A drawing was held from the cards containing the correct answer and Chief Charles DeVleeschower, of South Bend, Indiana, was awarded a $100 war bond.

NEW TEXTS

ONE of the most interesting and useful fire service drill manuals developed to meet wartime needs has been issued by the Navy Department, Bureau of Yards and Docks. It is entitled, "Suggestions for Fire Fighting and Fire Extinguishment," 212 pages illustrated.

Through the courtesy of N.F.P.A. member, Comdr. Harold K. Hughes, Bureau of Yards and Docks, Navy Department, Washington, D. C., a paper bound copy of this excellent book will be sent without charge to any N.F.P.A. member requesting it, to the extent of the limited supply available. Requests should be addressed to Commander Hughes.

THE National Institute of Municipal Law Officers, 730 Jackson Place, Washington, D. C., has issued an interesting and comprehensive 62-page report entitled "Firemen and the Law." This report was prepared by Attorney Charles W. Bahme, a former officer of the Los Angeles Fire Department. The report contains information and references on almost every legal subject affecting firemen including chapters on: 1, Creation and Organization of Municipal Fire Departments; 2, Municipal Liability to Public for Torts of Fire Department; 3, Municipal Liability to Members of Fire Departments; 4, Fire Prevention Bureaus; 5, Pensions; 6, Salary and Compensation; 7, Termination of Employment; 8, Duty Owed by Public to Members of Fire Department; and 9, Firemen's Liability.

The above chapters deal in detail with no less than 85 legal subjects of importance to fire departments. Therefore this text will find a useful place in many fire department libraries. It may be obtained from the Institute at $2.00 per copy.

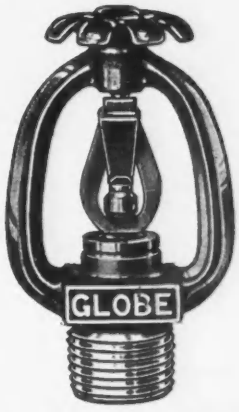
TO aid in the training of members of the fire guard unit of local citizens' defense corps, the U. S. Office of Civilian Defense has issued a comprehensive Instructors' Manual (OCD Publication 2017, dated June 1943, 120 pages, 8½ x 11 inches. The manual discusses the fire guard unit, the duties and responsibility of the fire guard organization, and provides suggestions for the fire guard instructor. Complete material is provided for eight 2-hour class sessions, providing a total of 16 hours training and instruction.

This is one of the best pieces of work which has been developed by OCD. Its usefulness is not limited by the needs of wartime or of protection against air raid fires. Persons completing the 16-hour training course will have an excellent background of general information about fire prevention and will be given opportunity to understand and in many cases to actually use first aid fire appliances so that they are able to deal with small fires.

Broome County, New York Fire Chiefs Organize

THIRTEEN fire chiefs from the 25 fire departments of Broome County in south-central New York State met in the Johnson City Municipal Building on September 24th, and organized the Broome County Fire Chiefs Association. Chief Ernest Youngs, of Port Crane, County Fire Administrator, was named tentative president. Plans for a county-wide system of mutual aid were discussed.

Automatic Sprinklers
Provide



A SAFE EFFECTIVE BRIDGEHEAD
FOR FIRE FIGHTERS
WHEN INVADING A
BURNING AREA
SPRINKLERS MAKE THE
FIRE
1. DISCOVER ITSELF
2. GIVE AN ALARM
ALSO
INSTANTLY DISTRIBUTE
WATER
ONLY AT THE SEAT OF THE
FIRE

Average fires occurring in sprinklered areas cause only one-tenth as much damage as those where there are no sprinklers.

GLOBE
AUTOMATIC SPRINKLER COMPANY
2035 Washington Avenue
Philadelphia, Pa.
OFFICES IN PRINCIPAL CITIES

The N. F. P. A. in Wartime

(*Continued from Page 11*)

result of the work of the Council, the Association has received official letters of commendation from Under Secretary of War Patterson, General Allen W. Gullion, the Provost Marshal General of the United States and Colonel P. D. Glassford, Chief, Internal Security Division.

The Association has given helpful assistance to the Fire Protection Section of the Bureau of Yards and Docks of the Navy Department and we have also been working closely with the Bureau of Ships in connection with the fire-fighting schools developed by them for the personnel of the Navy. Early in the war our executive staff established contact with Admiral Waesche, of the U. S. Coast Guard, and have been helpful in setting up the programs of fire protection throughout the ports of the country and also in connection with the fire-fighting and fire-prevention schools maintained by the Coast Guard.

For some time our Technical Secretary, Robert S. Moulton, has been serving as a consultant to the Stockpiling and Transportation Division of the War Production Board and in cooperation with the National Bureau for Industrial Protection has been largely responsible for the standards on Stockpile Storage issued by WPB.

The Association has been closely cooperating with the U. S. Office of Civilian Defense and the staff is represented on the Advisory Council on Fire Defense and the Industrial Protection Council. Chief Engineer Horatio Bond spent the first four months of this year in England as a representative of the Office of Civilian Defense.

The Association maintains contact with the National Housing Agency and the Federal Public Housing Authority and has been helpful in connection with their important fire protection problems. Various other federal agencies have been given advice and assistance on fire protection matters.

Activities of Members

It would be difficult to undertake to prepare any complete statement as to the war activities of the member organizations of the National Fire Protection Association. Practically all of our members are contributing in some way or another to various phases of the war program.

To give you an example of the work of one of our technical committees in the war field, I will discuss briefly some of the accomplishments of the Dust Explosion Hazards Committee. For some time there has been a demand for information on the explosion hazards incident to the manufacture and handling of magnesium powder. This material is used exclusively in our munitions plants in the manufacture of flares, signal and tracer ammunition. In order to supply to the operators of these plants information on the explosive characteristics of magnesium powder and methods which could be followed in providing protection against the fire and explosion hazard, the committee directed its attention to the preparation of a code for the prevention of explosions and fires in plants producing or handling magnesium powder or dust. This code was adopted at the last annual meeting of the Association in Chicago in May.

Volunteer Firemen

The National Fire Protection Association fully recognizes the importance of volunteer fire departments in our nation-wide effort to conserve loss of life and property against fire waste. The Volunteer Firemen section of the Association is growing steadily in strength and influence and we believe that we are providing to volunteer fire departments throughout the country information and assistance that they have never received before from any other source. We know that the seventeen thousand odd volunteer firemen enrolled in the Volunteer Firemens Section represent the progressive volunteer departments of the continent.

Dominion Fire Commissioner Reports on Fire Fatalities

Dominion Fire Commissioner W. L. Clairmont, recently issued statistical tables showing causes of fatal fires in Canada during 1942, and showing the occupancies in which these fatalities occurred. The figures, based upon information furnished by the various provincial fire marshals, show that 304 persons lost their lives in Canada last year. Of these, 129 were men, 61 were women, and 114 were children.

No comparable records showing loss of life by fire are available for the United States. The N.F.P.A. has for several years estimated that fires take approximately 10,000 lives each year in this country. Studies of causes of loss of life, based on typical reports received by the N.F.P.A., have been published from time to time in the *Quarterly Magazine*.

TABLE 1. OCCUPANCIES IN WHICH FATAL FIRES OCCURRED

	No. Fires	Men	Women	Children	Total
Apartments, Hotels, Lodgings, Tenements, etc.	21	9	8	10	27
Barns and Stables	4	2			2
Boats and Ships	1	2			2
Dwellings—rural	30	9	10	26	45
Dwellings—urban	65	25	13	63	101
Forest and Brush Fires	1			1	1
Garages and Filling Stations	7	7			7
Gas Works	2	2			2
Hospitals and Institutions	3	1	3	1	5
Manufacturing Occupancies	13	7	11		18
Mercantile Occupancies	4	22	5	1	28
Mining Property	1	1			1
Motor Vehicles (except Tank Trucks)	3	3		3	6
Tank Trucks	1	1			1
Out-of-Door Fires	9	7		3	10
Other Known Buildings	10	26			26
No Data	9	5	11	4	20
Total	184	129	61	114	304

TABLE 2. CAUSE OF FATALITY*

	Men	Women	Children	Total
Asphyxiation (Smoke and Gas Suffocation)	11	2	21	34
Children Alone in House			27	27
Children Playing with Matches			11	11
Clothing Ignited:				
Bonfires, Rubbish	1		4	5
Candles and Torches			1	1
Electrical Appliances			2	2
Furnaces, Stoves, and Heaters	1	4	3	8
Smoking and Matches	5	1	2	8
Smoking in Bed	22	3	2	27
Miscellaneous	1			1
Entering a Burning Building	2			2
Explosions:				
Acetylene	1			1
Chemicals	2			2
Electrical Transformers and Switches	1			1
Explosives	7	4		11
Liquefied Petroleum Gases	6	5	7	18
Manufactured and Natural Gases	3	2		5
Miscellaneous and Unknown	12	4		16
Flammable Liquids and Vapors:				
(a) Stoves, Lamps and Torches			2	2
(b) Used for Cleaning Purposes		1		1
(c) Used to Kindle Fire		3		3
(d) Miscellaneous	5		4	9
Kerosene, Range Oil, and Fuel Oil:				
(a) Stoves, Lamps and Torches	4	6	2	12
(b) Used to Kindle Fire	1	1	2	4
Paint, Varnish, Removers, Thinners, etc.	1			1
Miscellaneous and Unknown	4	1	4	9
Indirect Causes (overexertion, exposure)			1	1
Marine Fires	2			2
Tank Trucks	2		1	3
Trapped in Burning Buildings	8	1	2	11
Miscellaneous Known Causes	21	9	8	38
No Data	6	14	8	28
Total	129	61	114†	304

* Not cause of fire. † Fatalities classified according to the immediate cause of the loss of life rather than according to the cause of the fire. List each fatality under one cause only.

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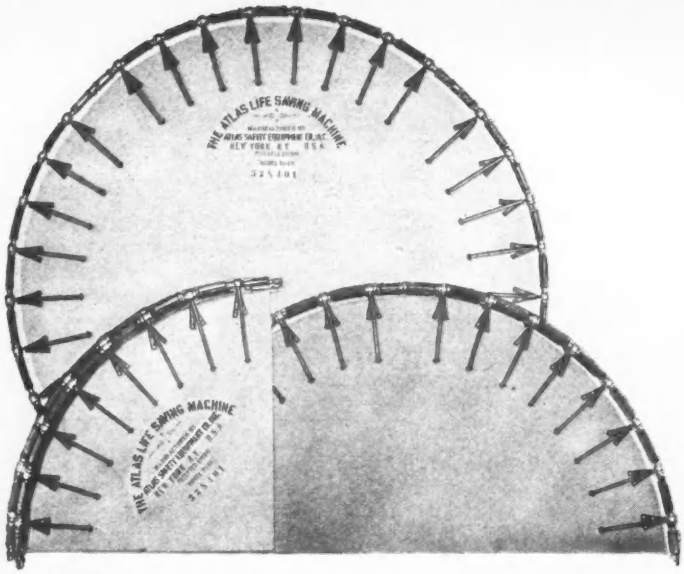

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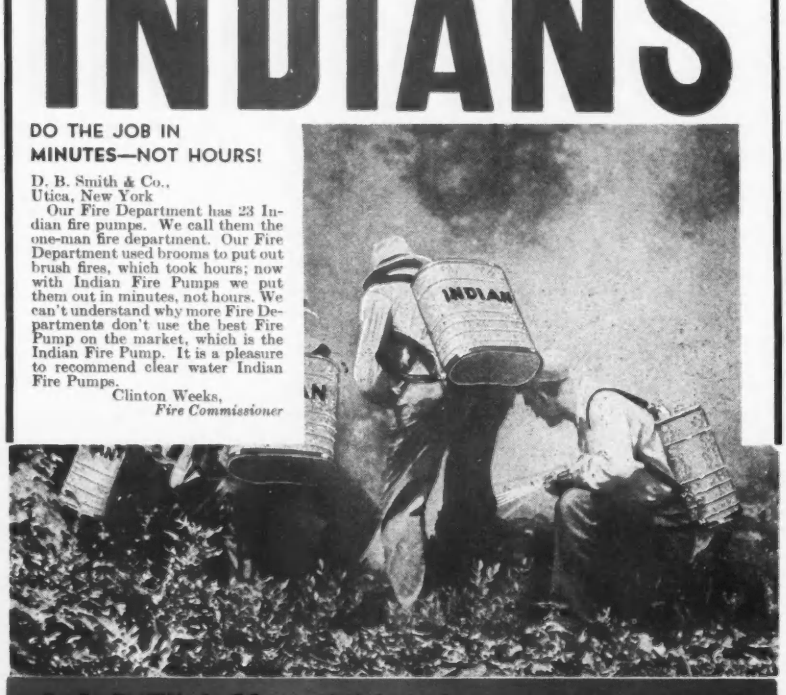
Clinton Weeks,
Fire Commissioner



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Fire Departments of the Future

(*Continued from Page 6*)

Departments will certainly be working at fires which last days instead of hours and with vastly more men than ever before. There will not be enough experienced fire officers to go around and there will not be enough trained men. Many plans of operation will fail. Cities may in numerous cases be expected to welsh on mutual aid agreements.

New problems will not be recognized. One of these is the necessity of having reliefs for men working long hours at fires, and provision of food, supplies and quarters for these men. Another is the need for staff officers to handle forces coming to aid a city, to arrange for their reception and allocation. Another is the need for a clear line of command when the departments of many cities and towns are working together.

EVERY fire chief dreams of unlimited resources of men and equipment. In dealing with air raids it is essential that the fire chief in command have such reserves at his disposal. It is especially necessary that all fire forces available can be moved as required under their own officers and wholly without interference from anybody else. Politically minded local officials appear in numerous cases in England to have held their fire forces at home when a neighboring city, which they might have aided, was being attacked. They felt that there was a chance that the raid might also include their own town. This point of view prevents any plan for the defense of an area being broad enough to enable the fire official responsible for mobilizing fire forces for the defense of an area to use all his fire-fighting forces to best advantage.

From the purely numerical point of view there will rarely be a sufficient number of officers to take charge of the local operations.

It is asking a great deal of the local chief to expect that he should be able to take a collection of units from a lot of different places and make of them the properly coordinated fire-fighting machine which he needs. It is necessary to keep in mind that the fire officers coming into town have no official standing in that town, except insofar as the chief officer may delegate authority to them. At a moment's notice, when bombs are falling and fires are starting all around him, it is simply unreasonable to expect a chief to be able to sort out the incoming officers, and assign authority according to the jobs they are expected to do.

They had more trouble with one detail than we might expect in this country. There was apparently much greater difference in uniforms and markings worn by fire departments of different cities in England than exists in this country. However trifling this detail may appear, it is clear that uniforms, caps, badges and other

markings must clearly show the respective rank of officers so that there can be no doubt as to who is in charge.

The National Fire Service is felt to give England and Wales a type of protection essential in wartime. It is likely to be continued after the war for the reason that the setup is giving protection to areas that never before had it. It has also been discovered that good protection can be given to rural and farm areas cheaper than was supposed. That's nothing more or less than what has been demonstrated by the county fire departments in California and other states. They also discovered that mobilization plans tend to reduce fire brigade costs to urban areas.

THE National Fire Service gives the large forces needed, including reserves, in proper administrative units. It provides means of solving new war problems of quartering men, providing for their relief and for practice exercises. It has set up uniform working conditions with respect to hours of work, rates of pay, fair disciplinary procedure. It has raised the standards of personnel. The wide opportunity for promotion has attracted good men and brings them into positions of command and responsibility. But most important just now — it takes in enough territory so that the operation of fire fighting can be a component part of the plans of the defense of the country.

I am not advocating a National Fire Service. Personally, I am violently opposed to the idea. The National Fire Protection Association is not advocating such an idea.

Furthermore, what they have in Britain is not nationalization as it would be here. A more direct parallel would be a fire service for each state. Scotland and North Ireland, separate politically from England as much as Oregon and Nevada are from California, have separately administered fire services.

I think most of you can recognize the difference between description of the British fire department arrangements and advocacy of a National Fire Service here, or in fact advocacy of any particular program for us. As far as I know, this is the first fire chiefs' organization to have the problem laid before them. It is a tough problem, full of headaches and possibilities for misunderstanding. Looking at it at a distance you have no conception of the toil and tribulation out of which came the present arrangements in England.

You can't shrug off what happened in England. While the English held off the enemy, our cities were spared. Had England fallen, and the margin was small, it would have been our cities in which these lessons might have been learned, the hard way. We may have to learn them ourselves sometime, if we sniff at them and say, in a superior way, that there's nothing in them for us.

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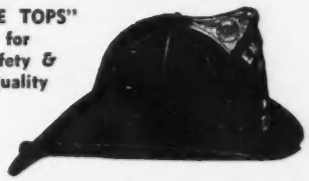

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MANUFACTURERS' ANNOUNCEMENTS

FOR fighting fires out in the open, in tank farm, refinery, and particularly for use on airplane landing fields, the new Foamite Fire Shield has just been announced by American-La France-Foamite Corp. of Elmira, N. Y. It is ruggedly built of sheet steel, reinforced with strong angle irons and measures 79½ inches high by 75¾ inches wide. Between the front and back plates of the Foamite Fire Shield is an insulating mineral wool blanket, one inch thick, capable of withstanding a temperature of 1200° Fahr.

The three observation ports and the four nozzle ports are each equipped with pivoted cover doors controlled from the rear of the shield. Sturdy anchoring chains are provided for securing playpipes in place.

At the base of the shield are three hinged skirts, which are designed to give way readily upon meeting any ground unevenness.

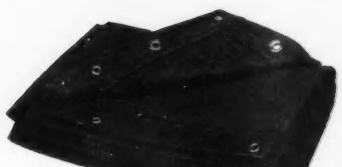
The wheel carriage is bolted to the shield body, so that the parts may be packed knocked-down, to permit of a minimum transportation space. The rear supports of the fire shield give great stability. They are hinged to fold against the shield body for shipment, and when being wheeled into action. A full length handle bar extends the full width of the shield at the top. Two short handles, normally hanging down, may be used to maneuver the fire-shield at the scene of the fire.

The manufacturer states that the Foamite Fire Shield is of particular value in the close-up fire fighting required when carbon-dioxide gas is used.

●

THE C-O-TWO Fire Equipment Company, Newark, N. J., has issued a new booklet describing its line of portable and built-in carbon dioxide fire extinguishing equipment and smoke detecting systems. The booklet, printed in two colors and illustrated, describes the application and operation of various kinds of C-O-Two equipment such as hand extinguishers with the newly developed "Squeez-Grip" valve, hose rack, hose reel and wheeled units, manual and automatic built-in extinguishing systems used for industrial, electrical and marine protection. Smoke detecting systems and recharging equipment are also included. Copies of the booklet are available on request to the company.

●



INDUSTRIAL PRODUCTS COMPANY, 2820 North Fourth St., Philadelphia, has placed on the market a line of IPCO Salvage Covers and IPCO Asbestos Fire Blankets. The salvage covers are made from a specially treated waterproofed and flameproofed canvas. A high quality, close woven asbestos cloth of Navy grade is used in making the IPCO Fire Blankets, according to the manufacturer. A leaflet describing these products in full will be sent on request to the company.

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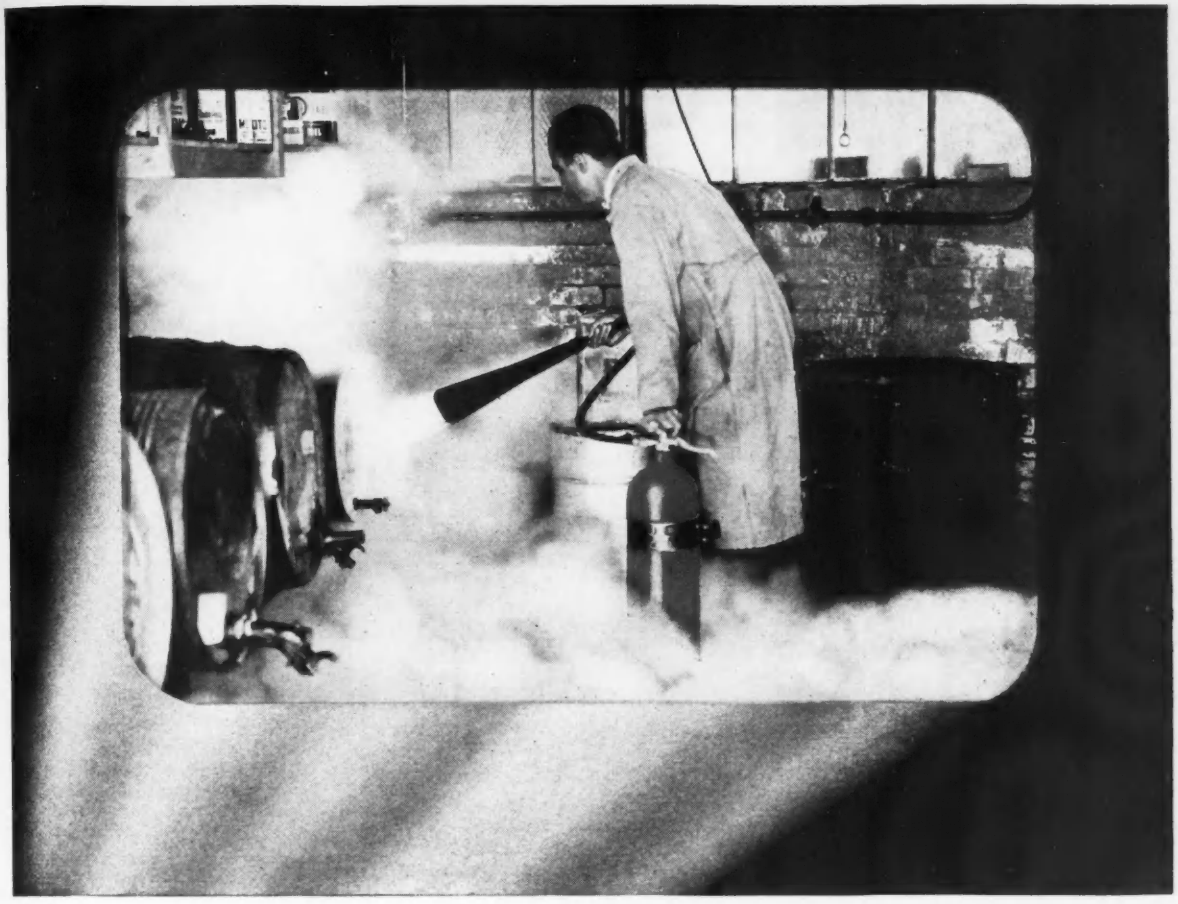

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